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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/660,055	09/10/2003	Simon John Knee	ASTU-001/01US (017622-201)	7300
23419 7590 02/21/2007 COOLEY GODWARD KRONISH LLP 3000 EL CAMINO REAL 5 PALO ALTO SQUARE PALO ALTO, CA 94306			EXAMINER NANO, SARGON N	
			ART UNIT	PAPER NUMBER
			2157	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/21/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/660,055	Applicant(s) KNEE ET AL.	
	Examiner Sargon N. Nano	Art Unit 2157	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>11/05</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is responsive to application filed on Sep. 10, 2003. Claims 1 – 31 are pending examination.

Priority

2. This application claims the benefit of provisional application 60,419,710 (October 17, 2002).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1 – 31 are rejected under 35 U.S.C. 102(e) as being anticipated by Magnussen et al. U.S. Patent No. 6,909,713 (referred to hereafter as Magnussen). Magnussen teaches a hash based frame distribution for web stitches, where data having an address at a network switch having one protocol processor obtain an identifier of a protocol processor (see abstract).

As to claim 1, Magnussen teaches a method of processing data in a stateful protocol processing system configured to process multiple flows of messages, said method comprising:

receiving a first plurality of messages of a first of said flows, said first of said flows comporting with a first stateful protocol (see col.3 lines 14 – 21, Magnussen discloses receiving messages from a client to a server);

deriving events of at least a first type and a second type from said first plurality of messages (see col. 3 lines 6 – 13, Magnussen discloses the messages or data packets received are checked to determine which protocol processor to direct the packets to) ;

assigning a first protocol processing core to process said events of said first type in accordance with said first stateful protocol (see col. 4 lines 28 – 49 and fig. 2, Magnussen discloses a classifier that routes the data packets and assigns a specific protocol processor to process the data packets); and

assigning a second protocol processing core to process said events of said second type in accordance with said first stateful protocol (see col. 4 lines 43 , and fig. 2, Magnussen discloses a data packet director transferring data to a protocol processor in a multiple protocol processor in a network switch).

As to claim 2, Magnussen teaches the method of claim 1 further including:
receiving a second plurality of messages of a second of said flows, said second of said flows comporting with a second stateful protocol; and deriving events of at least a third type and a fourth type from said second plurality of messages (see col.4 lines 1 – 16, and fig.3).

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As to claim 3, Magnussen teaches the method of claim 2 further including:

assigning a third protocol processing core to process said events of said third type in accordance with said second stateful protocol (see col. 4 line 61 – col. 5 line 9); and assigning a fourth protocol processing core to process said events of said fourth type in accordance with said second stateful protocol (see col. 4 line 61 – col. 5 line 9).

As to claim 4, Magnussen teaches the method of claim 2 further including:

assigning said first protocol processing core to process said events of said third type in accordance with said second stateful protocol; and assigning said second protocol processing core to process said events of said fourth type in accordance with said second stateful protocol (see col. 4 line 1 – 15 and fig. 3).

As to claim 5, Magnussen teaches the method of claim 1 further including:

identifying a first plurality of protocol processing cores configured to process said events of said first type (see col. 3 lines 57 – 67); and selecting said first protocol processing core from among said first plurality of protocol processing cores (see col. 3 lines 14 – 29).

As to claim 6, Magnussen teaches the method of claim 5 further including:

identifying a second plurality of protocol processing cores configured to process said events of said second type (see col. 3 lines 57 – 67); and selecting said second protocol processing core from among said second plurality of protocol processing cores (see col. 3 lines 14 – 29).

As to claim 7, Magnussen teaches the method of claim 1 further including:

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extracting a first flow identification key from said first plurality of messages (see col. 4 lines 28 – 49); generating a first local flow identification proxy based upon said first flow identification key; and retrieving a first flow state characterizing said first of said flows using said first local flow identification proxy(see col. 4 lines 28 – 49).

As to claim 8, Magnussen teaches the method of claim 7 further including: extracting a second flow identification key from said second plurality of messages; generating a second local flow identification proxy based upon said second flow identification key; and retrieving a second flow state characterizing said second of said flows using said second local flow identification proxy(see col. 4 lines 28 – 49).

As to claim 9, Magnussen teaches the method of claim 2 further including: receiving said first plurality of messages over a first logical channel (see col.3 lines 14 – 29); defining a first class of events corresponding to at least said events of said first type and said events of said second type; and executing a first event-handling routine applicable to said first class of events(see col.3 lines 14 – 29).

As to claim 10, Magnussen teaches the method of claim 9 further including: receiving said second plurality of messages over a second logical channel; defining a second class of events corresponding to at least said events of said third type and said events of said fourth type; and executing a second event-handling routine applicable to said second class of events(see col. 3 lines 1 – 29).

As to claim 11, Magnussen teaches the method of claim 3 further including: retrieving a first flow state characterizing said first of said flows(see col. 5 lines 45 – 64); partitioning said first flow state into a first workspace portion and a second

workspace portion; and assigning said first workspace portion to said first protocol processing core and said second workspace portion to said second protocol processing core(see col. 5 lines 45 – 64).

As to claim 12, Magnussen teaches the method of claim 11 further including:
retrieving a second flow state characterizing said second of said flows(see col. 5 lines 45 – 64); partitioning said second flow state into a third workspace portion and a fourth workspace portion; and assigning said third workspace portion to said third'. protocol processing core and said fourth workspace portion to said fourth protocol processing core(see col. 5 lines 45 – 64 and fig.3).

As to claim 13, Magnussen teaches the method of claim 2 further including:
setting a first flow timer associated with said first of said flows;
generating a first timeout expiration event upon expiration of said first flow timer; and
30 forwarding said first timeout expiration event to a first selected protocol processing core (see col. 5 lines 45 – 64).

As to claim 14, Magnussen teaches the method of claim 13 further including:
setting a second flow timer associated with said second of said flows;
generating a second timeout expiration event upon expiration of said second flow timer;
and forwarding said second timeout expiration event to ,a second selected protocol processing core (see col. 3 lines 14 – 29).

As to claim 15, Magnussen teaches the method of claim 1 further including:
generating an additional event based upon a current state of said first of said flows;
retrieving a current flow state on the basis of said additional event; and

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assigning a third protocol processing core, different from said first protocol processing core and second protocol processing core, to continue processing said events of said first type and said second type (see col.4 lines 61 – col. 5 line 9).

As to claim 16, Magnussen teaches the method of claim 2 further including: establishing a first communication buffer associated with said first of said flows, said first communication buffer being of a first buffer size based upon information within said first plurality of messages; and establishing a second communication buffer associated with said second of said flows, said second communication buffer being of a second buffer size based upon information with said second plurality of messages (see col. 4 lines 28 – 41).

As to claim 17, Magnussen teaches the method of claim 16 wherein said first communication buffer is comprised of a predetermined number of pages of equal size wherein one of said pages is allocated in connection with each of a plurality of allocation operations performed during communication of data associated with said first of said flows (see col. 4 lines 28 – 49).

As to claim 18, Magnussen teaches a stateful protocol processing apparatus configured to process multiple flows of messages, said apparatus comprising: an input processing unit disposed to receive a first plurality of messages of a first of said flows, said input processing unit deriving events of at least a first type and a second type from said first plurality of messages (see col. 3 lines 14 – 21);

a first protocol processing core (see col. 3 lines 6 – 13 and fig. 2);

a second protocol processing core (see col. 3 line 6 – 13 and fig. 2); and

a dispatcher operative to assign said first protocol processing core to process said events of said first type in accordance with a first stateful protocol and to assign said second protocol processing core to process said events of said second type in accordance with said first stateful protocol (see col. 3 lines 57 – 67).

As to claim 19, Magnussen teaches the apparatus of claim 18 wherein said input processing unit further:

receives a second plurality of messages of a second of said flows, said second of said flows comporting with a second stateful protocol (see col. 4 lines 1 – 16 and fig.3); and derives events of at least a third type and a fourth type from said second plurality of messages (see col.4 lines 61 – col. 5 line 9).

As to claim 20, Magnussen teaches the apparatus of claim 19 wherein said dispatcher further:

assigns a third protocol processing core to process said events of said third type in accordance with said second stateful protocol (see col. 4 lines 61 – col. 5 line 9); and

assigns a Fourth protocol processing core to process said events of said fourth type in accordance with said second stateful protocol(see col. 4 lines 61 – col. 5 line 9 and fig. 3).

As to claim 21, Magnussen teaches the apparatus of claim 18 wherein said dispatcher is further operative to generate a first local flow identification proxy based upon a first flow identification key extracted from said first plurality of messages (see col. 3 lines 1 – 27 and fig. 3).

As to claim 22, the apparatus of claim 21 further including a lookup controller disposed to cooperate with said dispatcher in retrieving a first flow state characterizing said first of said flows using said first local flow identification proxy(see col.1 lines 42 – 54).

As to claim 23, Magnussen teaches the apparatus of claim 22 further including: a first on-chip memory associated with said first protocol processing core; and a second on-chip memory associated with said second protocol processing core (see col. 4 lines 43 – 49 and fig.3);

wherein said dispatcher assigns a first workspace portion of said first flow state to said first protocol processing core and a second workspace portion of said first flow state to said second protocol processing core, and wherein said lookup controller manages transfer of said first workspace portion to said first on-chip memory and said transfer of said second workspace portion to said second on-chip memory(see col. 4 lines 43 – 49 and fig.3).

As to claim 24, Magnussen teaches the apparatus of claim 18 further including a lookup controller configured to administer a first flow timer associated with said first of said flows, said lookup controller sending a first timeout expiration event to a first selected protocol processing core upon expiration of said first flow timer (see col. 1lines 43 – 54).

As to claim 25, Magnussen teaches the apparatus of claim 18 wherein said first protocol processing core generates an additional event based upon a current state of said first of said flows, said apparatus further including a lookup controller disposed to

cooperate with said dispatcher in retrieving a current flow state on the basis of said additional event (see col. 4 lines 28 – 49).

As to claim 26, Magnussen teaches the apparatus of claim 25 wherein said dispatcher assigns a third protocol processing core, different from said first protocol processing core and second protocol processing core, to continue processing said events of said first type and said second type (see col. 4 line 61 – col. 5 line 9).

As to claim 27, Magnussen teaches the apparatus of claim 19 further including a socket memory controller configured to establish a first communication buffer associated with said first of said flows, said first communication buffer being of a first buffer size based upon information within said first plurality of messages (see col. 4 line 61 – col. 5 line 9).

As to claim 28, Magnussen teaches the apparatus of claim 27 wherein said socket memory controller is further configured to establish a second communication buffer associated with said second of said flows, said second communication buffer being of a second buffer size based upon information with said second plurality of messages (see col. 4 lines 28 - 49).

As to claim 29, Magnussen teaches a stateful protocol processing apparatus configured to process multiple flows of messages, said apparatus comprising an input processing unit disposed to receive a first plurality of messages of a first of said flows and a second plurality of messages of a second of said flows, said input processing unit generating a first additional plurality of events in response to said first plurality of

messages and a second additional plurality of events in response to said second plurality of messages (see col. 3 lines 14 – 21);

a first cluster of protocol processing cores (see fig.3);

a dispatcher operative to assign ones of said protocol processing cores to process ones of said first additional plurality of events in accordance with a first stateful protocol and ones of said second plurality of events in accordance with a second stateful protocol (see col. 4 lines 43 – 49 and fig.3);

a lookup controller in communication with said dispatcher, said lookup controller retrieving flow state information associated with said flows from external memory (see col. 1 lines 42 – 53);

scratchpad memory operatively connected to said dispatcher; and

a socket memory controller operatively connected to said scratchpad memory (see fig. 3 , Magnussen discloses a multiple of device ports connected to data protocol classifier).

As to claim 30, Magnussen teaches the apparatus of claim 29 wherein said first additional plurality of events include events of at least a first type and a second type, said dispatcher assigning a first of said protocol processing cores to process said events of said first type in accordance with said first stateful protocol and assigning a second of said protocol processing cores to process said events of said second type in accordance with said first stateful protocol (see col. 4 lines 43 – 49).

As to claim 31, Magnussen teaches the apparatus of claim 30 wherein said second additional plurality of events includes events of at least a third type and a fourth

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type, said dispatcher assigning a third of said protocol processing cores to process said events of said third type in accordance with said second stateful protocol and assigning a fourth of said protocol processing cores to process said events of said fourth type in accordance with said second stateful protocol (see col. 4 line 61 – col. 5 line 9).

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1 – 31 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 - 41 of copending Application No. 10,211,434. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1 – 41 of Patent

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Application Number 10,211,434 contains every element of the claims 1 – 31 of the instant application and thus anticipate the claims of the instant application. Claim(s) as such is/are unpatentable over obvious type double patenting. A later patent/application claim is not patentably distinct from an earlier claim if the later claim is anticipated by earlier claim.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Instant application 10/660 055 1. A method of processing data in a stateful protocol processing system configured to process multiple flows of messages, said method comprising: receiving a first plurality of messages of a first of said flows, said first of said flows comporting with a first stateful protocol; deriving events of at least a first type and a second type from said first plurality of messages; assigning a first protocol processing core to process said events of said first type in accordance with said first stateful protocol; and assigning a second protocol processing core to process said events of said second type in accordance with said first stateful protocol	Pending Application 10/211,434 1. A method of processing data in a stateful protocol processing system ("SPPS") that processes a multiplicity of flows of messages, each flow being associated with a uniquely corresponding flow identification ("FID") that is conveyed by messages belonging to such flow, the method comprising: a) receiving a plurality of messages belonging to a particular flow; b) deriving SPPS events associated with the particular flow from the received messages; c) specifically assigning a first protocol processing core ("PPC") to process one or more events of the particular flow in accordance with a stateful protocol (SP) of the particular flow; and d) specifically assigning a different second PPC to process one or more other events of the particular flow in accordance with the SP of the particular flow.
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<p>Instant application 10/660 055</p> <p>18. A stateful protocol processing apparatus configured to process multiple flows of messages, said apparatus comprising :</p> <p>an input processing unit disposed to <i>receive a first plurality of messages of a first of said flows</i>, said input processing unit deriving events of at least a first type and a second type from said first plurality of messages;</p> <p>a first protocol processing core;</p> <p>a second protocol processing core; and a dispatcher operative to assign said first protocol processing core to process said events of said first type in accordance with a first stateful protocol and to assign said second protocol processing core to process said events of said second type in accordance with said first stateful protocol.</p>	<p>Pending Application 10/211,434</p> <p>18. A method of processing data in a data communication stateful protocol processing system that processes a multiplicity of flows of data communication messages, each flow being associated with a uniquely corresponding flow identification ("FID") that is conveyed by messages belonging to such flow, the method comprising:</p> <p>a) <i>receiving messages belonging to a particular flow and messages belonging to other flows;</i></p> <p>b) deriving events from the received messages that are associated with the flow indicated by the FID of the message from which they are derived, including events associated with the particular flow and events associated with the other flows;</p> <p>c) placing each event in one of a group of one or more preliminary processing queues;</p> <p>d) assigning a first protocol processor core ("PPC") to process a first event of the particular flow without regard to the preliminary processing queue in which the first event is located, and subsequently transferring the first event to a local queue of the assigned first PPC; and</p> <p>e) assigning a different second PPC to process a different second event of the particular flow without regard to the preliminary processing queue in which the second event is located, and subsequently transferring the second</p>
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	event to a local queue of the assigned second PPC.
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Conclusion

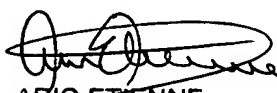
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sargon N. Nano whose telephone number is (571) 272-4007. The examiner can normally be reached on 8 hour.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (571) 272-4001. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Sargon Nano
Feb. 13, 2007


ARIO ETIENNE
PRIMARY EXAMINER